

Combination Light

At right is the Rayovac TANDEM™, an advanced technology combination work light and general purpose flashlight that incorporates several NASA technologies.

Produced by Rayovac Corporation, Madison, Wisconsin, the TANDEM functions as two lights in one. It features a long range spotlight (up to 50 feet) and wide angle floodlight (up to six feet in diameter); simple one-hand electrical switching changes the beam from spot to flood.

The TANDEM developers made particular use of NASA's extensive research in ergonomics (man/machine relationships) in the TANDEM's angled handle, convenient shape and different orientations that allow the user to shine either floodlight or spotlight or both from different angles. The shatterproof, water resistant plastic casing, similar to football helmet material, also draws on NASA technology, as does the shape and beam distance of the square diffused flood (right below).

The TANDEM's heavy duty magnet that permits the light to be affixed to any metal object borrows from NASA research on rare earth magnets that combine strong magnetic capability with low cost; the magnet's cost factor was very important to a high volume product, according to Rayovac officials. Finally, the Rayovac developers used a NASA-developed ultrasonic welding technique in the light's interior.

Rayovac was made aware of the NASA technologies by NERAC, Inc., Tolland, Connecticut, one of the 10 NASA-sponsored Industrial Applications Centers that offer clients access to the NASA data bank and some 400 other computerized databases. Since 1983, Rayovac engineers have been using NERAC's problem solving services as an extension of their own technology development capability. Rayovac reports that it has realized continuing savings in time, labor and expenditures from NERAC's work, which has provided direct assistance to the company on a wide range of projects.

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